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EXAMINER	
PAK, YONG D	

ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,341	ZDANOVSKY ET AL.	
	Examiner	Art Unit	
	Yong D. Pak	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *12-14,21-23,26-29,33,38-40 and 45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,15-20,24,25,30-32,34-37 and 41-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *see attached*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-45 are pending. Claims 12-14, 21-23, 26-29, 33, 38-40 and 45 are withdrawn. Claims 1-11, 15-20, 24-25, 30-32, 34-37 and 41-44 are under consideration.

Election/Restrictions

Applicant's election with traverse of Group I (claims 1-11, 15-20, 24-25, 30-32, 34-37 and 41-44) with a further election of SEQ ID NO:72, which comprises a polynucleotide encoding a CL1 and a PEST sequence and a UTR sequence, in the reply filed on April 27, 2006 is acknowledged. The traversal is on the ground(s) that the inventions are closely related because the claims are directed to polynucleotides encoding a fusion polypeptide comprising a reporter protein and at least two heterologous protein destabilization sequences. Examiner respectfully disagrees. The polynucleotides of SEQ ID NO:47-49, 66 and 69-80 are drawn to polynucleotides encoding fusion polypeptides having different structure, wherein the reporter proteins and destabilizing sequences are different. Therefore, each of the polynucleotides is patentably distinct, requiring separate searches in the art. The traversal is also on the grounds that Restriction Requirements are optional in all cases and if the search and examination of at least a portion of an entire application can be made without serious burden, the Examiner must examine it on the merits. Search and examination of the polynucleotides of SEQ ID NO:47-49, 66 and 69-80 imposes s a burdensome search because first of all the total number of nucleotide sequences add up to 16 different sequences and each of the polynucleotides encode fusion polypeptides having different

structure, wherein the reporter proteins and destabilizing sequences are different. The searches require independent searches for each polynucleotide. The search for each polynucleotide also requires not only the search of patent database but also search of several nucleic acid databases and non-patent literature. The requirement is still deemed proper and is therefore made FINAL.

Claims 12-14, 21-23, 26-29, 33, 38-40 and 45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on April 27, 2006.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on May 3, 2006, April 13, 2005, May 26, 2004, April 12, 2004, November 17, 2003 and October 31, 2003 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

Drawings submitted in this application are accepted by the Examiner for examination purposes only.

Sequence Compliance

Applicant is required to comply with the sequence rules by inserting the sequence identification numbers of all sequences recited within the drawings and specification. It is particularly noted that the sequences in the specification, page 23 and in Figure 5 of the drawings for example, lack sequence identification numbers. See particularly 37 CFR 1.821(d).

Claim Objections

Claim 17 is objected to because the claims drawn to non-elected subject matter, SEQ DI NOs:47, 48, 49, 66, 69-71 and 73-80.

Claims 20 and 32 are objected for the term "PEST". Reciting the full name of "PEST" would overcome the rejection.

Claims 24 and 34 are objected for the term "CL1". Reciting the full name of "CL" would overcome the rejection.

Claims 24 and 34 are objected to because the claims drawn to non-elected subject matter, CL2, CL6, CL9, CL10, CL11, CL12, CL15, CL16, CL17 and SL17.

Claims 30-31 are objected to because of the following informalities: Claims 30-31 are objected for improper grammar. The claim recites the word "of" after "half-life" in line 2 which is unnecessary. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 and claims 4-7, 15-17, 32-37 and 41-44 depending therefrom rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the phrase "codons which are preferentially employed in a selected host cell". The metes and bounds of the phrase in the context of the above claim are not clear to the Examiner. It is not clear to the Examiner what is considered as "preferentially" by the applicants. A perusal of the specification did not provide a clear definition for the above phrase. Without a clear definition, those skilled in the art would be unable to conclude if codons are "preferentially employed in a selected host cell" without knowing the metes and bounds of the phrase.

Claim 10 and claims 4-7, 15-17, 32-37 and 41-44 depending therefrom rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the phrase "nucleic acid sequence encoding at least the reporter protein". The metes and bounds of the phrase in the context of the above claim are not clear to the Examiner. It is not clear to the Examiner what is considered as "optimized" by the applicants. A perusal of the specification did not provide a clear definition for the above phrase. Without a clear definition, those skilled in the art would be unable to conclude if the reporter protein is "optimized for expression in a host cell" without

knowing the metes and bounds of the phrase. Examiner requests clarification of the above phrase.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites the phrase "substantially the same activity". The metes and bounds of the phrase in the context of the above claim are not clear to the Examiner. It is not clear to the Examiner what is considered as "substantially the same activity" by the applicants. A perusal of the specification did not provide a clear definition for the above phrase. Without a clear definition, those skilled in the art would be unable to conclude if fusion polypeptide has "substantially the same activity" without knowing the metes and bounds of the phrase.

Claims 20 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 20 and 32 recite the term "PEST". The metes and bounds of the term in the context of the claims are unclear. Reciting the full name of the sequence would overcome the rejection.

Claims 24 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 24 and 34 recite the term "CL1". The metes and bounds of the term in the context of the claims are unclear. Reciting the full name of the sequence would overcome the rejection.

Claims 30-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30-31 recite the phrase "half-life of expression". The metes and bounds of the phrase in the context of the above claims are not clear to the Examiner. It is not clear to the Examiner what applicants mean by "half-life of expression" or how to measure "half-life of expression" of a protein. A perusal of the specification did not provide a clear definition for the above phrase. Without a clear definition, those skilled in the art would be unable to ascertain a fusion polypeptide having a "half-life of expression" of 20 or 30 minutes.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11, 15-16, 18-20, 24-25, 30-32, 34-37 and 41-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1-11, 15-16, 18-20, 24-25, 30-32, 34-37 and 41-44 are drawn to a polynucleotide encoding a fusion polypeptide comprising A) a reporter protein or a luciferase and B) at least one or two heterologous protein and/or mRNA destabilization sequence, C) UTR sequence, D) a PEST sequence and/or E) CL1, wherein said fusion polypeptide has a reduced half-life relative to a corresponding reporter protein which lacks the heterologous protein destabilization sequences. The claims encompass polynucleotide encoding a fusion polypeptide comprising A) any or all reporter protein or a luciferase and one or more of B) any or all heterologous protein and/or mRNA destabilization sequence, including any or all variants, mutants and recombinants thereof, C) any or all UTR sequence, including any or all variants, mutants and recombinants thereof, D) any or all PEST sequence, including any or all variants, mutants and recombinants thereof and/or E) any or all CL1, including any or all variants, mutants and recombinants thereof. Therefore, the claims are drawn to a polynucleotide encoding a fusion polypeptide having any structure. The specification only describes the polynucleotide having the nucleic acid sequence of SEQ ID NO:72, which encodes a fusion polypeptide comprising a specific luciferase isolated from firefly, a specific

PEST sequence, a specific CL1 and a specific UTR sequence. This is not enough and does not constitute a representative number of species to describe polynucleotides encoding a fusion polypeptide comprising a whole genus of variants, recombinant and mutants of any or all reporter protein or luciferase and any or all protein and/or mRNA destabilization sequence, any or all PEST sequences, any or all CL1 sequence and any or all UTR sequences and there is no evidence on the record of the relationship between the structure of the polynucleotide of SEQ ID NO:72 and the structure of a polynucleotide encoding a fusion polypeptide comprising any or all recombinant, variant and mutant reporter protein, protein and/or mRNA destabilization sequence, PEST sequences, CL1 sequence and UTR sequences. Therefore, the specification fails to describe a representative species of the genus comprising polynucleotides encoding fusion polypeptides having any structure.

Given this lack of additional representative species as encompassed by the claims, applicants have failed to sufficiently describe the claimed invention in such full, clear, concise, and exact terms that a skilled artisan would recognize applicants were in possession of the claimed invention.

Applicant is referred to the revised guidelines concerning compliance with the written description requirement of U.S.C. 112, first paragraph, published in the Official Gazette and also available at www.uspto.gov.

Claim 1-11, 15-16, 18-20, 24-25, 30-32, 34-37 and 41-44 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a

polynucleotide having the nucleic acid sequence of SEQ ID NO:72, which encodes a fusion polypeptide comprising a specific luciferase isolated from firefly, a specific PEST sequence, a specific CL1 and a specific UTR sequence and vectors and host cells comprising said polynucleotide, does not reasonably provide enablement for polynucleotide encoding a fusion polypeptide comprising any reporter protein and any protein destabilizing and/or mRNA destabilizing sequences having any structure . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation is required are summarized in In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988). They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Claims 1-11, 15-16, 18-20, 24-25, 30-32, 34-37 and 41-44 are drawn to a polynucleotide encoding a fusion polypeptide comprising A) any reporter protein or a luciferase and B) at least any one or two heterologous protein and/or mRNA destabilization sequence, C) any UTR sequence, D) any PEST sequence and/or E) any CL1, wherein said fusion polypeptide has a reduced half-life relative to a corresponding reporter protein which lacks the heterologous protein destabilization sequences,

including any or all variants, mutants and recombinants thereof of said sequences. Therefore, the claims are drawn to a polynucleotide encoding a fusion polypeptide having any structure. Therefore, the breadth of these claims is much larger than the scope enabled by the specification.

The scope of the claims is not commensurate with the enablement provided by the disclosure with regard to the extremely large number of polynucleotides encoding fusion polypeptides comprising any or all reporter protein and mRNA and/or protein destabilization sequence, including any or all mutants, recombinants and variants thereof, broadly encompassed by the claims. Since the amino acid sequence of the encoded fusion protein determines its structural and functional properties, predictability of which changes can be tolerated in a protein's amino acid sequence and obtain the desired activity requires a knowledge of and guidance with regard to which amino acids in the protein's sequence, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification), and detailed knowledge of the ways in which the proteins' structure relates to its function. However, in this case the disclosure is limited to the polynucleotide having the nucleic acid sequence of SEQ ID NO:72, which encodes a fusion polypeptide comprising a specific luciferase isolated from firefly, a specific PEST sequence, a specific CL1 and a specific UTR sequence. It would require undue experimentation of the skilled artisan to make and use the claimed polynucleotide which encodes a fusion polypeptide comprising any or all any or all reporter protein and mRNA and/or protein destabilization sequence, including any or all mutants, recombinants and variants thereof. In view of the great breadth of the claim,

amount of experimentation required to make the claimed polynucleotides, the lack of guidance, working examples, and unpredictability of the art in predicting function from a polypeptide primary structure, the claimed invention would require undue experimentation. As such, the specification fails to teach one of ordinary skill how to use the full scope of the polypeptides encompassed by these claims.

While enzyme isolation techniques, recombinant and mutagenesis techniques are known, and it is routine in the art to screen for multiple substitutions or multiple modifications as encompassed by the instant claims, the specific amino acid positions within a protein's sequence where amino acid modifications can be made with a reasonable expectation of success in obtaining the desired activity/utility are limited in any protein and the result of such modifications is unpredictable. Similarly, regarding mRNA destabilizing sequences, the specific nucleic acid positions with a polynucleotide sequence where nucleic acid modifications can be made with a reasonable expectation of success in obtaining the desired activity/utility are limited in any polynucleotide and the result of such modifications is unpredictable. In addition, one skilled in the art would expect any tolerance to modification for a given protein or polynucleotide to diminish with each further and additional modification, e.g. multiple substitutions.

The specification does not support the broad scope of the claims which encompass polynucleotide which encodes a fusion polypeptide comprising any or all any or all reporter protein and mRNA and/or protein destabilization sequence, including any or all mutants, recombinants and variants thereof because the specification does not establish: (1) regions of the protein structure which may be modified without

affecting luciferase activity; (2) the general tolerance of luciferase to modification and extent of such tolerance; (3) a rational and predictable scheme for modifying any amino acid residue with an expectation of obtaining the desired biological function; (4) making a fusion polypeptide wherein the half life of a reporter protein or luciferase is reduced by adding any or all mRNA or protein destabilizing sequences; and (5) the specification provides insufficient guidance as to which of the essentially infinite possible choices is likely to be successful.

Thus, applicants have not provided sufficient guidance to enable one of ordinary skill in the art to make and use the claimed invention in a manner reasonably correlated with the scope of the claims broadly including polynucleotide which encodes a fusion polypeptide comprising any or all any or all reporter protein and mRNA and/or protein destabilization sequence, including any or all mutants, recombinants and variants thereof. The scope of the claims must bear a reasonable correlation with the scope of enablement (*In re Fisher*, 166 USPQ 19 24 (CCPA 1970)). Without sufficient guidance, determination of a polynucleotide encoding a fusion protein having the desired biological characteristics is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See *In re Wands* 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir, 1988).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11, 15-16, 18-20, 25, 32, 35-37 and 41-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Leclerc et al.

Claims 1-11, 15-16, 18-20, 25, 32, 35-37 and 41-44 are drawn to a polynucleotide encoding a fusion protein comprising a reporter protein such as a luciferase isolated from firefly, and two protein destabilizing sequence, such as a C-terminal fragment of mouse ornithine decarboxylase and a PEST sequence and a mRNA destabilizing sequence, such as any UTR sequence, and further comprising an inducible promoter and a vector and host cell comprising said polynucleotide, wherein the half life activity of luciferase is decreased.

Leclerc et al. (form PTO-1449) discloses a polynucleotide encoding a fusion protein comprising a luciferase isolated from firefly, two protein destabilizing sequences, a C-terminal fragment of mouse ornithine decarboxylase and a PEST sequence, and a mRNA destabilizing sequence, UTR sequence, further comprising an inducible promoter, a vector and host cell comprising said polynucleotide, wherein the half life activity of luciferase is decreased (abstract on page 590, Figure 1 on page 594 and pages 591, 594 and 596). Therefore, the reference of Leclerc et al. anticipates claims 1-11, 15-16, 18-20, 25, 32, 35-37 and 41-44.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leclerc et al. as applied to claims 1-11, 15-16, 18-20, 25, 32, 35-37 and 41-44above, and further in view of Gilon et al.

Claims 17 and 30-31 are drawn to a polynucleotide having the nucleic acid sequence of SEQ ID NO:72 which comprises a polynucleotide encoding luciferase isolated from firefly, two protein destabilizing sequence, CL1 sequence and a PEST sequence, and a mRNA destabilizing sequence, wherein the half life activity of luciferase is 20 or 30 minutes.

Leclerc et al. (form PTO-1449) discloses polynucleotide encoding a luciferase isolated from firefly, two protein destabilizing sequence, C-terminal fragment of mouse ornithine decarboxylase and a PEST sequence and a mRNA destabilizing sequence, UTR sequence, further comprising an inducible promoter and a vector and host cell comprising said polynucleotide, wherein the half life activity of luciferase is decreased, as discussed above. The luciferase of the instant invention and the luciferase of Leclerc et al. are identical because both are isolated from the same source, firefly. The PEST sequence of Leclerc et al. is 100% identical to the PEST sequence used by the instant invention (See Figure 1 on page 594 and page 31 of the instant specification).

The difference between the reference of Leclerc et al. and the instant invention is that Leclerc et al. does not teach a polynucleotide comprising CL1 sequence, wherein the half life activity of luciferase is 20 or 30 minutes. The property of having a half-life of 20 or 30 minutes

Gilon et al. (form PTO-1449) discloses a protein destabilizing sequence, CL1 (ACKNWFSSLSHFVIHL), which is 100% identical to the CL1 sequence employed in the instant invention (ACKNWFSSLSHFVIHL) (See Table 1 on page 2763 of Gilon et al. and on page 31 of the instant specification).

Therefore, combining the teachings of Leclerc et al. and Gilon et al., it would have been obvious to one having ordinary skill in the art to substitute the C-terminal fragment mODC in the polynucleotide of Leclerc et al. with CL1 of Gilon et al. One of ordinary skill in the art would have been motivated to use the protein destabilizing CL1 sequence of Gilon et al. in order to further reduce the half life activity of luciferase. One

of ordinary skill in the art would have had a reasonable expectation of success since Leclerc et al. teaches reducing the half-life of a luciferase by fusing mRNA and protein destabilizing sequences to the luciferase and Gilon et al. teaches additional protein destabilizing sequences that can be used to destabilize proteins. The property of having a half-life of 20 or 30 minutes would be an inherent property of the resulting polynucleotide.

Therefore, the above references render claims 17 and 30-31 *prima facie* obvious to one of ordinary skill in the art.

None of the claims are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 571-272-0935. The examiner can normally be reached 6:30 A.M. to 5:00 P.M. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Yong D. Pak
Patent Examiner 1652

Manjunath Rao
Primary Patent Examiner 1652